

WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:

a image pickup element which picks up an image and
outputs a color image signal;

5 a controlling section which outputs a signal that
selects a color image output or a monochrome image
output; and

a converting section which receives an input of
the color image signal from the image pickup element,
10 and in the case where the color image output is
selected by the signal from the controlling section,
outputs the color image signal, and in the case where
the monochrome image output is selected, adaptively
converts the color image signal into the monochrome
15 image signal on the basis of a characteristic nature of
the image so as to output the monochrome image signal.

2. An image processing apparatus comprising:

a image pickup element which picks up an image and
outputs a color image signal and a monochrome image
20 signal;

a controlling section which outputs a signal that
selects a color image output or a monochrome image
output; and

a converting section which receives an input of
25 the color image signal from the image pickup element,
and in the case where the color image output is
selected by the signal from the controlling section,

outputs the color image signal, and in the case where
the monochrome image output is selected, and outputs
the monochrome image signal that can be acquired by
converting the monochrome image signal and the color
5 image signal on the basis of a characteristic nature of
the image.

3. An image processing apparatus according to
claim 2, wherein

the converting section corrects a concentration
10 level of the monochrome image signal by using the color
image signal when the monochrome image is output.

4. An image processing apparatus comprising:

a image pickup element which picks up an original
document and outputs a color image signal and a
15 monochrome image signal;

a memory section which holds the monochrome image
signal and the color image signal at the same time; and

a determining section which determines whether the
image of the original document is color or monochrome
20 on the basis of the color image signal.

5. An image processing apparatus which executes
compression by dealing with a color difference signal
in a lower resolution comparing with a luminance signal
in a luminance/color-difference space concerning a
25 color image signal, wherein

the color image signal is composed of a monochrome
image signal and a color signal with a lower resolution

than that of the monochrome image signal, the luminance
signal is generated from the monochrome image signal or
the monochrome image signal and the color signal, and
the monochrome image signal and the color signal are
5 input by a monochrome sensor and a color sensor with a
lower resolution than that of the monochrome sensor.

6. An image processing apparatus which decodes a
compressed signal by dealing with a color difference
signal in a lower resolution comparing with a luminance
10 signal in a luminance/color-difference space concerning
a color image signal and generates a decoded image
signal, wherein

the decoded image signal is composed of a
monochrome image signal with a high resolution and a
15 color image signal with a low resolution.

7. An image processing apparatus comprising:

image pickup means for picking up an image and
outputting a color image signal;

controlling means for outputting a signal that
20 selects a color image output or a monochrome image
output; and

converting means for receiving an input of the
color image signal from the image pickup element, and
for, in the case where the color image output is
25 selected by the signal from the controlling means,
outputting the color image signal, and in the case
where the monochrome image output is selected,

adaptively converting the color image signal into the monochrome image signal on the basis of a characteristic nature of the image so as to output the monochrome image signal.

5 8. An image processing apparatus comprising:

image pickup means for picking up an image and outputting a color image signal and a monochrome image signal;

controlling means for outputting a signal that
10 selects a color image output or a monochrome image output; and

converting means for receiving an input of the color image signal from the image pickup means, and for, in the case where the color image output is
15 selected by the signal from the controlling section, outputting the color image signal, and in the case where the monochrome image output is selected, outputting the monochrome image signal that can be acquired by converting the monochrome image signal and
20 the color image signal on the basis of a characteristic nature of the image.

9. An image processing apparatus comprising:

image pickup means for picking up an original document and outputting a color image signal and a
25 monochrome image signal;

memory means for holding the monochrome image signal and the color image signal at the same time; and

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color image output is selected by the signal from the controlling section, outputting the color image signal, and in the case where the monochrome image output is selected, outputting the monochrome image signal that can be acquired by converting the monochrome image signal and the color image signal on the basis of a characteristic nature of the image by a converting section.

12. An image processing method according to claim 11, wherein a concentration level of the monochrome image signal is corrected by using the color image signal when the monochrome image is output, by the converting section.

13. An image processing method comprising:

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        picking up an original document and outputting a
color image signal and a monochrome image signal by a
image pickup element;

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holding the monochrome image signal and the color image signal at the same time by a memory section; and

determining whether the image of the original document is color or monochrome on the basis of the color image signal by a determining section.

14. An image processing method which executes compression by dealing with a color difference signal in a lower resolution comparing with a luminance signal in a luminance/color-difference space concerning a color image signal, wherein

the color image signal is composed of a monochrome image signal and a color signal with a lower resolution than that of the monochrome image signal, the luminance signal is generated from the monochrome image signal or the monochrome image signal and the color signal, and the monochrome image signal and the color signal are input by a monochrome sensor and a color sensor with a lower resolution than that of the monochrome sensor.

15. An image processing method which decodes a
10 compressed signal by dealing with a color difference
signal in a lower resolution comparing with a luminance
signal in a luminance/color-difference space concerning
a color image signal and generates a decoded image
signal, wherein the decoded image signal is composed of
15 a monochrome image signal with a high resolution and a
color image signal with a low resolution.